

EPA Completes Successful Construction Season at the Wyckoff/Eagle Harbor Superfund Site

EPA would like to thank the community of Bainbridge Island for its patience and support during the winter construction season. A great deal of work took place at the Wyckoff/Eagle Harbor Superfund Site from late October, 2000 to February 15, 2001. All activities were completed successfully and on schedule. During the season, EPA:

- installed over 2,300 lineal feet of sheet pile wall around the most heavily contaminated area of the site,
- created over 1,200 lineal feet of habitat beach, and
- capped 15 acres of contaminated harbor sediments with clean material.

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Sheet Pile Wall

Installation of the sheet pile wall around the site began in early November and was completed February 15. The sheet pile was installed just beyond the rip rap on the beach and was driven to a depth ranging from 40' to 100', in order to tie into the natural clay barrier deep underground. The wall will contain contaminants on site, preventing seepage of creosote into the harbor.



The sheet pile was installed using two types of pile drivers. The first driver was a vibratory hammer which vibrates the pile from above, loosening

Wyckoff's wall is made up of the longest sheet piles ever used. The England mill which produced them had to knock out a wall to fill the order.

the sediment beneath, allowing the pile to drop into place. The vibratory hammer was used because it produces less noise than traditional impact hammers. Noise was a critical issue raised by the community prior to construction. The second device, an impact hammer, was used when the vibratory hammer was unable to drive the pile to the necessary depth. This driver was used on longer sheets, and when cobble or large debris was encountered.

The perimeter wall is about 1800 feet long. An additional 530 feet of sheet pile wall was installed in the site's interior to provide containment for upcoming pilot thermal treatment operations. Monitoring well chambers have been welded along the outside of the wall to allow EPA to evaluate its effectiveness during thermal treatment.

Habitat Beach

EPA has created over two acres of beach habitat on the western portion of the Wyckoff site. The new beach mitigates habitat loss resulting from the sheet pile wall installation. Construction of the habitat area required the removal of old wooden bulkheads, and the removal and contour-

ing of soil along the shoreline. The clean soil that was removed has been used to backfill behind the sheet pile wall. Contaminated material was removed to the area of the site targeted for thermal cleanup. Once the soil was removed, a layer of "fish mix," material with the grain size preferred by endangered species and smelt, was placed on the newly created beach surface. This project will connect existing smelt habitat to the west, to a beach which will be created as part of the capping project to the east.

Capping

In late October and early November, EPA began placing clean cap material over contaminated sediments in Eagle Harbor in the area between the existing 50-acre cap and the shoreline. By the end of the construction season, EPA had successfully placed a 3-5 foot thick cap over the entire 15-acre area by gently washing it off barges. During the next construction season (August 15, 2001 to February 15, 2002), EPA plans to place additional material near the shoreline to create a gentle slope and new beach in front of the sheet pile wall. This new beach area will link the habitat beach created this season with beach areas around the rest of the site.



EPA washed clean sediment off barges to cap contaminants in the harbor.



Steam Construction Begins This Summer

EPA is wrapping up the design of the steam injection remediation pilot study system. Construction will begin this summer with site preparation and installation of the vapor cap, injection and extraction wells, instrumentation, and a boiler building. Remaining construction, such as installation of the boiler, pumps, and piping, and treatment plant modifications will begin late 2001. The pilot system likely will be online next summer.

EPA expects to operate the pilot system for one and a half years: a year of steam injection and contaminant extraction, and another 6 months of continued contaminant removal (after the steam is turned off). To maintain hydraulic control, the existing treatment plant will continue pumping and treating contaminants from throughout the site. EPA is aware of community concerns about noise and will take measures to minimize any disturbance during construction and operation of the system.

Community Information Meeting: Stay Tuned

In response to public request, EPA will host a community information meeting this Spring, likely in April or May. Notice of the meeting will be published in local papers and provided directly to individuals on the mailing list soon. At the meeting, EPA project managers will provide an update on site activities and answer questions.

EPA to Drill On-Site Water Well

After a thorough analysis of water options for the steam injection system, EPA has decided to construct a water well onsite. A well was found to be the only dependable, feasible, and cost-effective water option. EPA will construct the well this summer outside of the contaminated zone. The well will draw water from an aquifer 800-1000 feet under ground.

EPA is sensitive to community concerns about the use of well water given the limited availability of fresh water on the island. In response to community and natural resource agency requests, EPA pursued the possibility of using effluent from the city's water treatment system, or using water provided by utility. EPA also evaluated options for trucking or barging water to the site. These options proved unworkable due to cost and feasibility obstacles.

EPA plans to limit the use of well water by recycling process water. By installing a cooling tower, we can reduce the system's water needs to as low as 20-50 gallons per minute. The onsite well will not impact nearby water wells and will not affect the amount of water available to the island's residents. For additional information regarding EPA's analysis of water options and a technical justification for the water well, contact Hanh Gold at (206) 553-0171.

EPA Exploring Potential Buffer Zone at Wyckoff Site

As site cleanup proceeds, EPA must consider long-term protection and function of the cleanup remedy. As part of this process, and as a result of formal comments received from the public and supporting agencies, EPA is now considering the potential for vegetated "buffer" areas along the Wyckoff shoreline after cleanup is complete.

What are buffers? Buffers are vegetated areas intended to separate critical habitat from nearby development and human activity. Buffers reduce impacts from stormwater runoff by stabilizing soils and filtering toxic substances. They can also provide essential habitat for wetland and coastal organisms. Buffers can separate bodies of water from the impacts of human activity including noise, glare, debris, nutrient input, and destruction of vegetation.

What would buffers offer at Wyckoff? At the Wyckoff/Eagle Harbor site, the primary function of the buffer zone would be to protect shoreline and beach areas of the site that have been



created, cleaned up, or enhanced by cleanup activities. The eventual result of these cleanup activities will be the creation over 2500 feet of clean, interconnected, intertidal beach habitat for endangered species - including Chinook Salmon, and Bull Trout - smelt, shellfish, birds and small mammals.

In order to protect this intertidal habitat and make sure that it continues to function, even if upland areas are developed, some type of vegetated buffer would be necessary to:

- Separate functioning intertidal habitat from upland human activity;
- Moderate the impacts of stormwater runoff by stabilizing soils, providing erosion control and filtering suspended solids;
- Provide essential habitat for fish and upland shoreline wildlife for use in feeding, breeding, and rearing, as well as necessary cover from predators.

The size and composition of a vegetated buffer at the Wyckoff site would depend on a number of factors, including the types of organisms to be protected or encouraged, and future use of the site. While the exact design of a buffer would be open for discussion, it would likely have areas of restricted access, and areas of mixed use. Restricted areas would attempt to minimize human presence to preserve habitat value, while mixed use areas would provide for more human activity while buffering restricted areas from intrusive development.

Again, EPA is only considering the potential for use of vegetated buffers after site cleanup is complete. If you have comments, ideas, or questions about the potential use of buffers at Wyckoff, EPA would like to hear from you. For a more detailed information sheet call Ken Marcy at 206/553-2782, or visit the Bainbridge Library information repository. Please send your written comments by April 20 to Ken Marcy at: EPA Region 10, ECL-111, 1200 Sixth Avenue, Seattle, WA 98101, marcy.ken@epa.gov

Earthquake Damages Treatment System

The existing Wyckoff Treatment Plant sustained some damage during the February 28 earthquake. A large tank holding treated water split at the bottom and caused about 60,000 gallons to spill onto the concrete containment pad. This water has been pumped back into a temporary holding tank and is undergoing treatment through the plant again. Two other large tanks lost their anchor bolts; however, the tanks themselves seem fine.

There appears to be no damage to the sheet pile wall and embankment, or the sediment cap. EPA will conduct a more thorough inspection in the next few weeks.

Soil to be Moved

After 20,000 cubic yards of contaminated soil is excavated, the Former Log Storage/Peeler Area can be called clean. Contaminated soil will be moved to the Former Process Area this summer for eventual treatment. Excavated areas will be backfilled with clean soil.

Community Involvement Plan Updated

EPA recently updated its Community Involvement Plan for the Wyckoff/Eagle Harbor Superfund Site. The draft document reaffirms EPA's commitment to a strong community involvement program and discusses public involvement activities. In order to develop a meaningful plan tailored to this community, EPA interviewed nearly a dozen community representatives, talked informally with many local residents, and considered comments and concerns raised at local meetings and during comment periods. A copy of the draft update is available at the Bainbridge Library's information repository, on EPA's web site, or by calling Andrea Lindsay (see next page). The document is a "living" document, and comments are always welcome.



Site Background

EPA listed Wyckoff/Eagle Harbor as a Superfund site in 1987. The former Wyckoff wood treating facility, located at the mouth of Eagle Harbor on Bainbridge Island, operated from the very early 1900's to 1988. Soils at the facility, and groundwater beneath the facility, are severely contaminated. Contaminants include creosote and other wood treatment compounds. About 1 million gallons of creosote product remains in the site's soil and groundwater. These contaminants pose a risk to public health and the environment.

A groundwater extraction and treatment system has been operated on site since 1990. However, contaminants were still moving into the marine environment until the sheet pile wall was installed in 2001. EPA will use thermal treatment technologies to clean up remaining soil and groundwater contamination.

In Eagle Harbor, bottom sediments were severely contaminated with chemicals from wood-treating and shipyard operations. A public health advisory recommends against eating fish and shellfish from the harbor. Contaminated sediments in various locations were capped with clean material in 1994, 1997, and 2000. More capping will occur.

For More Information

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EPA Web Site:

www.epa.gov/r10earth/
click on "index" at the bottom
click on "W" for Wyckoff

Documents: The Administrative Record is a file that contains all information used by EPA to make decisions on the cleanup actions from the beginning of the site's history. The Administrative Record can be reviewed at the EPA Records Center, 7th Floor, 1200 Sixth Avenue, Seattle. Call 206/553-4494 to make an appointment. Select documents can be viewed at the Information Repository located at the Bainbridge Island Public Library, 1270 Madison Avenue North. If the library does not have the document you need, feel free to call Andrea Lindsay, EPA Community Involvement Coordinator, at (206) 553-1896.

Additional services can be made available to persons with disabilities by calling EPA toll-free at 1-800-424-4372.



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